

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026192**Date Inspected:** 25-Aug-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS Tower**Summary of Items Observed:**

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed on the various field fit-up of weld joints and the Complete Joint Penetration (CJP). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process.

**A). Tower Shear Plates**

The QAI observed the repair welding of the Visual Testing (VT) repair performed by Richard Garcia ID-5892 of the joint designated as "R" and identified as WN: E-041. The welding was performed utilizing the SMAW process and the 3.2 E7018-H4R electrode as per the WPS ABF-WPS-D15-1000 Repair, Rev. 2 and was performed in the vertical (3G) position with the work placed in an approximately vertical plane with the groove approximately vertical. The welding parameters were observed and noted as 132 amps. The minimum preheat temperature of 204 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius appeared to comply with the contract specifications. The location of the repair welding was at the Y coordinate dimension of 2370 mm. The QC inspection was performed by John Pagliero utilizing the WPS as a reference to monitor the welding, verify the welding parameters and the related work in regards to this operation. The welding was not completed during this shift.

The QAI observed the excavations and the in process Magnetic Particle Testing (MPT) performed during the excavations which were discovered by the Ultrasonic Testing method located at Y coordinates 5210 mm and 5460 mm with lengths noted as 80 mm and 100 mm, accordingly. This work was performed by Jeremy Dolman

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ID-5042 utilizing the Air Carbon Arc cutting (ACA) method on the joint designated as "N" and identified as WN: N-041. The QAI also observed the QC inspector perform the MPT during the cutting process at approximately every two cutting intervals. It was noted by the QAI that the beginning of the fusion type defect appeared at an approximate depth of 10 mm and continued to a depth of approximately 22mm to 23 mm. The QC inspection and testing was performed by John Pagliero utilizing the SE-MT-D1.5-CT-100 Rev.4. At the conclusion of the excavation and in process testing Mr. Dolman commence the profile grinding to be followed by QC performing a final MPT prior to the repair welding.

This QA Inspector also performed a daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

In regards to the excavations in the preceding paragraph, this QAI was informed on this date by Structures Representative, Douglas Wright, that the Request for Weld Repair Approval was verbally approved in regards to the ESW's identified as WN: N-041, joint location "N".

## QA Summary

The welding and excavations were performed in the vertical position with the welding utilizing the E7018-H4R electrode. The 3.2 mm H4R electrodes were stored in a electrically heated, thermostatically controlled oven after the removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter to measure the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs below illustrate some of the work observed during this scheduled work date.



## Summary of Conversations:

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There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection and N.D.E. testing personnel scheduled for this shift.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Reyes,Danny	Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell,Bill	QA Reviewer
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